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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/592,820	06/13/2000	David B. Gibbons	1999-0345 (STG171)	7180

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EXAMINER

SCHULTZ, WILLIAM C

ART UNIT	PAPER NUMBER
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2664

DATE MAILED: 11/05/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/592,820

Applicant(s)

GIBBONS ET AL.

Examiner

Mark A Mais

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-15 and 17-19 is/are rejected.
- 7) ☒ Claim(s) 6 and 16 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 July 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

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DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on June 13, 2000 was filed with the current Application. The submission is in compliance with the provisions of 37 CFR 1.56 and 1.97. Accordingly, the examiner considered the information disclosure statement.

Drawings

3. Receipt is acknowledged of the drawings submitted on July 14, 2000. These drawings are acceptable.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 11-5, 7-15, and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krasner (USP 6,150,980) in view of Engstrom et al. (USP 5,909,436).

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5. With regard to claim 1, Krasner discloses a method for establishing a network time comprising: transmitting network clock information (**col. 12, lines 26-27 and lines 35-37**) on the broadcast channel (**GSM Broadcast control channel, col. 12, lines 26-27**) to remote units (**col. 12, lines 35-36**); receiving the broadcast channel at a remote unit (**col. 12, lines 35-36**); and deriving the network clock information from the received broadcast channel (**col. 12, lines 45-53**).

6. Krasner does not specifically disclose an OFDM waveform, which defines a broadcast channel. However, Engstrom et al. discloses the use of OFDM with GSM broadcasts (**Col. 2, lines 1-12**). It is well known that OFDM is thought of as a combination of modulation and multiple-access schemes that segments a communications channel in such a way that many users can share it. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use OFDM on the broadcast channel because and because OFDM provides the best of the benefits of TDMA (GSM) in that users are orthogonal to each other, and CDMA in terms of a spread spectrum.

7. With regard to claim 11, Krasner discloses a system for establishing a network time comprising: a first base station (**Fig. 1, Base Station 106**) having a network clock (**col. 12, lines 39-41 and 45-46**) and a first remote unit (**Fig. 1, Receiver 100**) having a local clock (**Fig. 2, processor 212; see also col. 12, lines 47-53**) and a port for communicating with the first base station (**Fig. 1, Comm. Antenna 102**), the first remote unit updating the local clock with the network clock information received on the broadcast channel (**col. 12, lines 45-53**).

8. Krasner does not specifically disclose a port for communicating information organized in OFDM including a broadcast channel transmitting network clock information (**col. 12, lines 26-27 and 35-37**). However, Engstrom et al. discloses the use of OFDM with GSM broadcasts (**Col. 2, lines 1-12**) in the same broadcast medium. It is well known that OFDM is thought of as a combination of modulation and multiple-access schemes that segments a communications channel in such a way that many users can share it. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use OFDM on the broadcast channel because and because OFDM provides the best of the benefits of TDMA (GSM) in that users are orthogonal to each other, and CDMA in terms of a spread spectrum.

9. With regard to claims 2 and 12, Krasner discloses that providing the broadcast channel includes providing a plurality of identified broadcast channel superframes (**Fig. 4B; see also col. 12, lines 26-30**); transmitting of the network clock information includes identifying a first broadcast channel superframe and deriving network clock information includes the remote unit identifying the first broadcast channel superframe (**superframes occur every 6.12 seconds, and allow cell phones to ascertain time. Inherently, the cell phone will synchronize using the first broadcasted superframe; see also col. 12, lines 34-41**).

10. With regard to claims 3-5, 7-8, 13-15 and 17-18:

a. With regard to claim 3 and 13, Krasner discloses transmitting the first broadcast channel superframe identity in a first plurality of broadcast channel frames. It is well known in the art to use the control portion of a frame for synchronization and frame identification. Moreover, Krasner discloses transmitting the superframe ID and that the frame counter counts superframes (**col. 12, lines 47-53**).

b. With regard to claim 4 and 14, Krasner discloses transmitting the first broadcast channel superframe identity in a first network access channel frame in the first plurality of broadcast channel frames. It is well known in the art to use the control or preamble portion of a frame for synchronization and frame identification. Moreover, Krasner discloses transmitting the superframe ID and that the frame counter counts superframes (**col. 12, lines 47-53**).

c. With regard to claim 5 and 15, Krasner discloses transmitting the first broadcast channel superframe identity in a first network access channel slot in the first network access channel frame. It is well known in the art to use the control or preamble portion of a frame for synchronization and frame identification. Moreover, Krasner discloses transmitting the superframe ID and that the frame counter counts superframes (**col. 12, lines 47-53**).

d. With regard to claim 7 and 17, Krasner discloses a second broadcast channel superframe following the first broadcast channel superframe (**inherent**); and incrementing the first broadcast channel superframe count by one to create a second broadcast channel superframe count and transmitting the second broadcast channel superframe count to identify the second

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broadcast channel superframe. It is well known in the art to use the control or preamble portion of a frame for synchronization and frame identification. Moreover, Krasner discloses transmitting the superframe ID and that the frame counter counts superframes (**col. 12, lines 47-53**).

e. With regard to claim 8 and 18, Krasner discloses using reusable base station numbers. It is well known and necessary in the art to identify base stations to cell phones in cell-phone network structures. GSM technology, disclosed in Krasner, has a finite amount of reusable base station ID numbers based on the frame structure, and is well-known in frame methodology (**GSM and other frame-based cell phone frame structures, col. 9, lines 26-37 and col. 12, lines 18-33**)

f. With regard to claims 3-5, 7-8, 13-15 and 17-18, Krasner does not specifically disclose 4 timeslots make up a network access slot, 5 network access slots make up a network access channel, 32 network access channels (for 32 base stations) make up a broadcast channel or that 8 broadcast channels make up a broadcast channel superframe. However, Krasner discloses a superframe structure based on multiple channel frames. (**GSM and other frame-based cell phone frame structures, col. 9, lines 26-37 and col. 12, lines 18-33**). Applicant has not disclosed that a specific frame structure solves any stated problem or is for any particular purpose. It appears that the frame structure discloses in Krasner would perform equally well with the frame structure claimed by Applicant (TDMA based model). Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to

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modify Krasner to use the same frame structure for the wireless network because such modifications are considered a mere design choice consideration, which fails to patentably distinguish over the prior art of Krasner. In addition, changing the frame structure, as claimed and disclosed, is interpreted as an optimum value for a known process. A discovery of an optimum value for a known process is obvious engineering. *See In re Aller*, 105 USPQ 233 (CCPA 1955).

11. With regard to claims 9, 10 and 19, remote units already have 32-bit hardware serial numbers. Changing a 32-bit hardware serial number to a more manageable 14-bit identity is similar to performing a hashing function. It is well known that hashing is the transformation of one bit string to a usually shorter bit string that represents the original string and is used for information management as well as encryption. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a hashing function to change the 32-bit hardware serial number of a remote unit to a 14-bit identity because the hashing function allows a shorter, more manageable bit string.

Allowable Subject Matter

12. Claims 6 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. The following is a statement of reasons for the indication of allowable subject matter:

The Examiner has not found a system or method for establishing a network time in a wireless multiple access network that uses an OFDM waveform utilizing a frame structure wherein a 29-bit superframe count is maintained to identify the broadcast channel superframe.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Upender et al (USP 5,854,454) Message Routing in Control Area Network (CAN) protocol
- b. Engstrom et al. (USP 6,084,871) Method for synchronization of transmitter and receiver at mobile station radio
- c. Bienveniste (USP Patent Pub. 2001/0055297) Asymmetric measurement-based dynamic packet assignment system and method for wireless data services
- d. Ring (USP 6,430,148) Multidirectional communication systems

- e. Park et al. (USP 6,470,030) Orthogonal frequency division multiplexing receiver system
- f. Atarius (USP 6,278,699) Synchronization techniques and systems for spread spectrum radiocommunication
- g. Baum et al. (USP 5,867,478) Synchronous coherent orthogonal frequency division multiplexing system, method, software, and device

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark A Mais whose telephone number is (703) 305-6959. The examiner can normally be reached on 8:00-4:30.

16. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on (703) 305-4366. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

17. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

October 30, 2003


RICKY NGO
PRIMARY EXAMINER

Form PTO-1449

**INFORMATION DISCLOSURE CITATION
IN AN APPLICATION**

(Use Several Sheets If Necessary)

Docket No.
1999-0345 (STG171)

Application No. (Unknown)
Applicant: D. Gibbons et al

Filing Date: (Herewith)
Group Art Unit: (Unknown)
U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
<i>GM</i>	5,177,740	01/05/93	Toy et al	370	100.1	
<i>GM</i>	5,517,505	05/14/96	Buchholz et al	307	105.1	
<i>GM</i>	5,699,388	12/16/97	Wang et al	375	356	
<i>GM</i>	5,945,949	08/31/99	Yun	342	457	
<i>GM</i>	6,041,047	03/21/00	Diachina et al	370	347	

DCB29 U.S. PTO
09/592820
06/13/00

FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

EXAMINER
DATE CONSIDERED: 10/30/03

EXAMINER: Initial if citation is considered, whether or not citation is in conformance with MPEP ' 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.

(2/92 PTO)